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[54] GTP CYCLOHYDROLASE I REGULATORY PROTEIN

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[58] Field of Search 435/69.1, 325, 435/320.1; 536/23.5; 530/350

[56] References Cited

PUBLICATIONS

Milstien, S., et al, "Purification and Cloning of the GTP Cyclohydrolase I Feedback Regulatory Protein, GFRP", *The Journal of Biological Chemistry*, 271(33): 19743-19751 (1996).

Werner, E.R., et al., "Tetrahydrobiopterin Biosynthetic Activities in Human Macrophages, Fibroblasts, THP-1, and T 24 Cells", *The Journal of Biological Chemistry*, 265(6): 3189-3192 (1990).

Niederwieser, A., et al., "GTP cyclohydrolase I deficiency, a new enzyme defect causing hyperphenylalaninemia with neopterin, biopterin, dopamine, and serotonin deficiencies and muscular hypotonia", *Eur J Pediatr*, 141: 208-214 (1984).

Ichinose, H., et al., "Hereditary progressive dystonia with marked diurnal fluctuation caused by mutations in the GTP cyclohydrolase I gene", *Nature Genetics*, 8: 236-242 (1994).

Harada, T., et al., "Feedback Regulation Mechanisms for the Control of GTP Cyclohydrolase I Activity", *Science*, 260: 1507-1510 (1993).

Barnett, M.J., et al., (GI 152439) GenBank Sequence Database (Accession M33495), National Center for Biotechnology Information: National Library of Medicine, Bethesda, Maryland 20849 (1990).

Barnett, M.J., et al., (GI 152440) GenBank Sequence Database (Accession M33495), National Center for Biotechnology Information: National Library of Medicine, Bethesda, Maryland 20849 (1990).

Milstien, S., et al., (GI 1698997) GenBank Sequence Database (Accession U78190), National Center for Biotechnology Information: National Library of Medicine, Bethesda, Maryland 20849 (Nov. 4, 1996).

Milstien, S., et al., (GI 1698996) GenBank Sequence Database (Accession U78190), National Center for Biotechnology Information: National Library of Medicine, Bethesda, Maryland 20849 (Nov. 4, 1996).

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[57] ABSTRACT

The present invention provides a human GTPCH regulatory protein (HGCR) and polynucleotide which encode HGCR. The invention also provides expression vectors, host cells, agonists, antisense molecules, antibodies, or antagonists. The invention also provides methods for treating disorders associated with expression of HGCR.

6 Claims, 5 Drawing Sheets